

## Teachers' perception of online teaching and its effects on learning outcome during Covid-19: an India based mixed method study

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### Abstract

The purpose of this study was to explore the perceptions of teachers regarding online teaching whether they are comfortable and confident while delivering online content to students during this tough time of pandemic? Online teaching is not new in India, but many teachers are experiencing this first time due to emergency and sudden closure of institutions of higher education due to COVID 19. Teachers and students all are engaged in online teaching/learning and combat with several challenges i.e. lack of resources, expertise, anxiety, etc. This study is an attempt to determine the problems and issues pertained to teachers during online teaching. Efforts have been also made to find out teachers' perceptions about students' learning outcomes. This study explored advantages/disadvantages as well as barriers of online instructions as perceived by teachers of various colleges affiliated to Guru Nanak Dev University (GNDU), Amritsar, Punjab, India. There is the significant importance of the type of online teaching experiences i.e. faculty members who were having positive online teaching experiences significantly differ from their colleagues who experienced the negative or no online teaching experiences. Results obtained from this study indicate those faculty members who were trained and having sufficient exposure towards the technology are more comfortable as well as successful while implementing online teaching, therefore, it is strongly recommended that sufficient training must be provided to the teaching fraternity. Our "New Education Policy 2020 also support this view and recognize the importance of online/blended/digital education.

**KEYWORDS:** Online Teaching, Covid-19, Perceptions, Learning, ICT, Quantitative, Qualitative.

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### 1. Introduction

The Indian education system is based upon traditional chalk and talk methodology; although in the metro and capital cities of India there is the presence of ICT in the institution of higher education still more than 70% of Indian institutions are using traditional methods and pedagogy to teach students. In this time of the pandemic, institutions of higher education are struggling with several issues faced by teachers as well as by students.

Many studies took place to study the different features of the online teaching-learning environment (Kim & Bonk, 2006) Online teaching requires certain expertise on both ends (teachers as well as for students).

The impact of this pandemic was so severe that it has shaken the world to its core. In most of the countries, Governments have temporarily closed educational institutions (Bds & Ojcius, 2020) According to UNESCO, this closure impacted 91% of the students. This report of UNESCO estimated that the coronavirus adversely impacted the 320 million students in India. Very few studies have been done so far to know the impact of COVID 19 on education (Toquero, 2020). Most of the studies are related to China and other countries, there is a lack of studies in India. Online teaching supports the concept of any time/anywhere learning, it provides the flexibility of time and location. Li and Akins (2003), Gagne and Walters (2009) suggested in their studies that there is a great need to develop tools for online teaching and such tools must be

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more effective when compared with face to face learning.

One quantitative study based upon Constructivist Online Learning Environment Survey (COLLES) studied the observed and expected experiences of students and teachers. This study was based upon quantitative data collected from teachers and students which concluded that there is a need for more research on the quality of teaching/learning realized with online support (Taylor & Maor, 2000). China, the originator of this disease implemented a policy of “Suspending Classes without Stopping Learning”. This was launched by the Ministry of Education to switch into large scale online teaching. While studying the implications of this policy, it has been recommended that preparing teachers with relevant skills through professional development is the need of the hour. Furthermore, they argued that there is a need for financial, legal, and administrative support to the teachers (Zhang et al., 2020). This study targeted a wide research gap that must be filled by successive studies to know more about the effectiveness of online teaching.

The present study is an attempt to fill the research gap which was identified in earlier studies and the most important aspect of this study is to analyze the problem from the Indian perspective (Stošić & Stošić, 2015). The past studies didn't explain the disadvantages of the implementation of the internet in education. It has been argued that there is a need to explore the issue more extensively. So, in the current study, an attempt has been made to identify advantages as well as disadvantages along with challenges prevailing to online teaching. Online classes are going on but there is a need to analyze the learning outcomes. Do faculty members are at ease to use the different online platforms?

## 2. Literature review

There are very few studies to determine the effectiveness of online learning in Indian perspectives. New Education Policy generated the numerous dimensions to outdated education system in India. A comprehensive set of recommendations is provided for the promotion of online education, which also includes the establishment of an autonomous body National Education Technology Forum (NETF). There are numerous challenges for the implementation of NEP 2020, the major ones are capacity building and infrastructure (Soy, 2021). The recent outburst of epidemics clearly shows the importance of alternatives modes of quality education whenever and wherever traditional and in-house modes of education are not possible (Naveen, 2021). New education policy provided stress on digital India and this campaign will be helpful to convert entire nation into digitally empowered society as well as a knowledge economy. Extensive use of technology in higher education is the mission of NEP 2020. The whole world is affected by the COVID 19 and it's after effects are going to there for a long time. To implement the NEP

2020 there is need of huge investment for which Indian government is ready to enhance the budgetary expenditure from 3% to 6% (Kalyani, 2020). It is essential to identify scientific methods to observe and monitor the activities of teachers/learners during online teaching (Sahu, 2020). Limited research is available to study the comfort level of teachers, learning behaviour, and learning outcomes of students in the online environment (Hung & Zhang, 2008). A purely qualitative study was conducted in Canada in 2003 with a sample size of ten and used the Interview method to collect data (Conrad, 2004). In this study, teachers mentioned that online teaching is more time-consuming. Views of teachers have been collected before as well as after the online teaching. One of them mentioned that “although computer made him nervous it's not as bad as I thought maybe because of user-friendly online teaching software (in this case it was webCT)”. Aydin (2005) conducted a quantitative study with a sample size of 53 mentors in Turkey. Descriptive statistics (means and standard deviation) were used to analyze the perceptions of teachers related to online teaching. Teachers perceived that access to resources is very crucial for the success of online teaching.

Similar two studies were conducted in the United States (2009), for the first study qualitative as well as quantitative data accessed to know the perceptions of teachers about online instructions. Fish et al. (2009) study is considered a base study for the current paper. While discussing challenges to online teaching some common barriers perceived by all faculty members were more time consuming, faculty training and support as well as faculty acceptance towards the paradigm of online instructions. In the second paper Gagne & Walters (2009), only qualitative data was collected for the Qualitative Meta-synthesis Study (QMS) design, generating new interpretive findings from existing qualitative studies. In this study, the authors selected nine studies to understand the changing role of the teacher in the case of online teaching and mentioned that further studies may be done to determine the robustness and efficacy of the findings or for generalizations of the findings. The instrument designed in the present study is based upon one which was used in the first study.

Teachers' perceptions were also studied by Gonzalez (2009) with the help of qualitative data. Seven lecturers were interviewed by the Faculty of Health Sciences. Teachers who were interviewed in this study conceived that online teaching is having some unique features like transmitting structured knowledge, more based upon interactions between students and teachers, teaching as a facilitating understanding, etc. Stošić & Stošić (2015) conducted a quantitative study with a sample of 143 teachers from Serbia. The scale consisted of 45 claims and is intended for determining teachers' attitudes regarding the implementation of the Internet in education. This study didn't explore the limitation of the use of online teaching. The study is also not able to explain the comfort level of teachers while teaching online. In the latest study (Park & Kim, 2020) collected

data from a sophomore-level online business statistics course between spring 2018 and summer 2018, taught by the same instructor. Mentors in this study assumed that the internet adds new dimensions in the teaching process and works as a facilitator. According to this study, a replication study with different communication tools in various courses would be good future research to support the generalizability of the findings. Bao (2020) in her case study also presented the same viewpoint and concluded that there is a need for adequate support for teachers to improve the breadth and depth of the teaching/learning process.

Based on the above literature review a comprehensive instrument is reviewed for the current study to collect data about teacher's perceptions. To support the viewpoint of teachers' quantitative as well as qualitative research is also required so data has been collected to evaluate both the aspect.

### 3. Research problem

Online teaching, which emerged as savior of education during the rise of pandemic becomes issue of concern for policy makers also. For the implementation of futuristic plan in any nation it is essential to know the expectations/perceptions of first pillar i.e. teachers. This study is an attempt to determine the problems and issues pertained to teachers during online teaching.

### 4. Methodology

For this study, a sample of 82 teachers was selected. These faculty members have been working in different colleges under the flagship of one Government University. To conduct this study an online survey tool was created with the help of Google forms. This survey was divided into five parts to collect data and faculty members were requested to provide their inputs as regards their perception and beliefs related to online teaching. These five different aspects were as follow: (i) Demographic profile of faculty members, (ii) Comfort level and training, (iii) Students learning outcomes, (iv) Delivery of academic tasks, and (v) Advantages/disadvantages as well as barriers to online teaching. This survey was created after an extensive literature review. The scale used in this paper has been developed by Fish (2009).

Quantitative data was analyzed with the help of non-parametric tests. To compare differences in the mean ranking of the Likert scale of responses between university faculties with their experience of online teaching as a previous positive experience, previously negative experience, and no experiences of teaching, the computation of the Kruskal Wallis test was used at .05 level of significance.

### 4. Results

In this study, data was organized based on the experiences of teachers concerning online teaching. As per Table 2, 85.4% (70) of teachers were having positive experiences and only 4.8% (4) are having negative experiences as regards to online teaching whereas 9.8% (8) were not having any experience of online teaching. All of these teachers were teaching undergraduate as well as post-graduate classes. To check the difference between positive experiences, negative experiences, and no online teaching experiences and to compare means of these parameters, the Kruskal Wallis test has been performed. According to this test, there are significant means that rank the difference between the three different groups of faculties. All the results are given as appendices. Table 3 included the mean and Standard Deviations of responses given by faculty members. This table clearly explains the experiences of faculty members as regard to online teaching. Those who were having positive experiences are having higher value of mean 4.1(.78), 4.1(.94), 3.9(.90), 3.9(1.00) and 3.4(.94) as regard to, comfortable implementation, consider self-qualified, sufficient training, desire to teach online and future plan to teach online with a low slandered deviation. At the same time those who were having negative experiences comparatively have low mean value and high SD for 5 variables.

As regard to Students Learning Outcomes, again those who were having positive experiences are showing high value of mean as compare to those who were having negative experiences or having no experiences. These values are 3.4(1.26), 2.4 (2.0), 3.2(1.05), 3.4(.94), 3.0(1.75), 3.3 (.93) for advocate for online teaching, equivalent to traditional, beneficial to most students, complement adult learning, most students prefer online and enhances student services respectively. As compare to this, faculty with negative experiences shows a lower value of mean 3.0(.816), 2.0(1.15), 2.0(.81), 2.5(1.2), 1.7(.5), 2.2(.95) for six variables.

The third criteria was delivery of academic task, data in the Table 3 clearly shows that positive experiences lead to high value of mean whereas negative experiences lead to low value of mean for the five variables. These values are 3.7(.99), 3.5(.87), 3.3(1.21), 3.08(1.15) and 3.47(1.09) for faculties who were having positive experiences for

lecture, case studies, group discussion, group studies and research. In case of teachers having negative experience values are 2.2 (.95), 2.5(.57) 2.2(.50), 2.2(.95) and 3.5(1.29). These values are quite low for mean and high for SD.

<i>Cronbach's alpha</i>	<i>No. of items</i>
.936	16

**Table 1** - Reliability Statistics.

	<i>Frequency</i>	<i>Per cent</i>	<i>Cumulative Percent</i>
Negative online teaching experience	4	4.9	4.9
No online teaching experience	8	9.8	14.6
Positive online teaching experience	70	85.4	100.0
<i>Total</i>	82	100.0	

**Table 2** - Distribution of data according to the type of perceptions. Descriptive statistics were used to further analyze the data in terms of mean, SD.

## 5.1 Qualitative Data Analysis

### 5.1.1 The comfort level and Implantation

Participants were asked to rate their perceptions related to online teaching on a Likert scale of 1 to 5. For the first part i.e. comfort level and training, they were asked to answer these five statements Comfortable Implementing, Consider Self Qualified, Sufficient Training, and Desire to Teach Some Online as well as Future Plans to Teach Online. Those who were having 4(4.8%) negative online teaching and those who were having 8(9.8%) no online teaching out of these only 2 teachers agreed that it was difficult for them to implement online teaching. Those who were having 70 (85.4%) positive online teaching experience, out of these only two-faced problems while implementing online teaching, 56 agreed that they were quite comfortable while implementing online teaching. This perceived conception of comfort level may be enhanced in the no online teaching group due to the reason that 25% of participants within the group consider themselves as self qualified even in case of negative online teaching experience 25% agreed that they were self qualified. In the case of positive online teaching experiences, 40% (28) out of 70 consider themselves as self qualified. Among the faculty members who were perceived negative and no online teaching experience, only 1(25%), 1(12.5%) respectively were having formal and informal training, whereas those

who were having positive online teaching experiences 51(72.8%) agreed that they were having training in one or another form. Those who were having negative and no online teaching experiences only 4 (33%) were having any desire to teach an online course. At the same time, those who have positive online teaching experiences 48(68.5) were having a desire to teach online programs. Those members who were having positive experiences 48(68.5%) came forward with the

plan to teach online whereas negative or no online teaching experience squeezed this ratio 25% only. Responses of faculty regarding comfort level and training of faculty while implementing online teaching has been given in Table 4.

### 5.1.2 Students' Learning and Outcome

To access perceptions regarding the outcome of teaching as regard to students, faculty members have been asked to rank six statements. These statements were Advocate for OnlineTeaching, Equivalent to Traditional, Beneficial to Most Students, Complements Adult Learning, Most Students Prefer Online, and Enhances Student Service.

Surprisingly when they were asked about the comparison of online and traditional teaching, most of them prefer traditional teaching and declared that online teaching is not equivalent to traditional teaching. Faculty members with no online teaching and negative online teaching experiences, only 1(8.3%) agreed that both are equal. Those who were having positive experiences only 12(17%) agreed upon the equality of both. This may be due to poor resources and institutional support because while answering open-ended questions most of them mentioned about lack of resources and technical issues. Not even a single faculty member with negative and no online teaching experiences agreed that students prefer online teaching as compared to classroom teaching where. Those who were having negative and no online teaching experiences only 4(33%) responded favorably, whereas 36(51%) advocate online teaching. as those with positive believes 23(32.8%) said that students prefer online teaching. In the first subgroup, only 1(8.3%) said that online teaching enhanced students' services while 32(45.7%) in the subgroup with positive perceptions agreed that online teaching enhanced students' services. The relevant data related to Students' learning and Outcome has been mentioned in Table 5.

### 5.1.3 Delivery of Academic task

Most of the Faculty members were in favour of online teaching while discussing the success of lecture and case study method. Those who were having positive experiences considered the lecture method as the best one. Out of these 43(61.4%) considered the lecture method most effective while teaching online. In this group 36(51%) considered a case study an effective method. The same faculty members were not in favour of group activities while teaching online. Teachers having no teaching/negative experiences only 3(25%) consider lecture and case study methods are effective while teaching online.

For research purposes, 42(60%) agreed that online teaching is effective. The detailed data related to the perceptions of teachers regarding the delivery of Academic tasks have been given in Table 6.

Items	Faculty with Positive Experiences M (SD)	Faculty with Negative Experiences M (SD)	Faculty with No Experiences M (SD)
<b>The comfort level and Training</b>			
Comfortable Implementing	4.1 (.78)	2.5 (1.29)	3.2 (1.38)
Consider Self Qualified	4.1 (.84)	3.2 (1.25)	3.5 (1.06)
Sufficient Training	3.9 (.90)	3.0 (1.63)	2.6 (1.18)
Desire to Teach Some Online	3.9 (1.00)	3.25 (.50)	3.2 (1.38)
Future Plans to Teach Online	3.9 (.94)	2.7 (.50)	2.6 (1.4)
<b>Student' learning outcomes</b>			
Advocate for Online Teaching	3.4 (.126)	3.0 (.816)	2.6 (.56)
Equivalent to Traditional	2.4 (2.0)	2.0 (1.15)	2.1 (1.45)
Beneficial to Most Students	3.2 (1.05)	2.0 (.81)	2.0 (1.06)
Complements Adult Learning	3.4 (.94)	2.5 (1.2)	2.37 (1.06)
Most Students Prefer Online	3.0 (1.75)	1.7 (.5)	1.8 (.83)
Enhances Student Service	3.3 (.93)	2.2 (.95)	1.8 (1.12)
<b>Delivery of Academic Tasks</b>			
Lecture	3.7 (.99)	2.2 (.95)	2.8 (1.35)
Case Studies	3.5 (.87)	2.5 (.57)	2.6 (1.06)
Group Discussion	3.3 (1.21)	2.2 (.50)	2.3 (1.5)
Group Activities	3.08 (1.15)	2.2 (.95)	2.5 (1.3)
Research	3.47 (1.09)	3.5 (1.29)	2.2 (1.38)

Table 3 - Descriptive statistics.

## 5.2 Qualitative Data Analysis

For the sake of open discussion, some open-ended questions were included in the survey instrument, which was related to advantages, disadvantages, and barriers to online teaching.

There are certain limitations of the quantitative analysis, which are beyond the control of researcher (Simon, 2011). To overcome such issues

a mixed approach has been used. Under this content analysis is performed with the help of two techniques i.e. with the help of themes (manual method) and with the help of the second technique used for the same is Word Frequency Analysis.

### 5.2.1 Content Analysis: Themes

#### (Advantages of online teaching)

Manual content analysis was performed as the examination mechanism. For this analysis advantages, listed by teachers are considered a unit of analysis. In this process, the following main themes emerge as advantages of online teaching: (a) Flexibility of time and location. (b) Safe and convenient during this time of Covid-19. (c) Helpful to keep the social distance. The majority of teachers agreed that online teaching is quite flexible as regards to time and place. Anytime, anywhere learning is possible due to online teaching. Teachers cited that "Students can learn from anywhere", "Covers

the barriers of time and distance regardless of place, you can get to learn wherever you are". When they wrote about the advantages major concern in their mind is the safety of students during this time of pandemic and the said, "Easy and safe", "It keeps you safe and saves time" "Provide a safer environment, cut commuting cost, can be conducted from any place of your comfort" one of the faculty members very beautifully express views while describing the advantage of it.

"It is the need of the hour to fill in the void created due to Covid-19. This has highlighted the positive side of technology to all who were against it. Since social distancing is the foremost concern to be safe from the corona. Online teaching came as a boon for both teacher and taught. Moreover, the teachers have played a crucial role in creating a positive mindset for all (students and their parents). They have made it evident to all that we the teachers are always there for our students, to make them sail smoothly through every storm in life be it directly (as in the present situation) or indirectly later on in their life (by making them confident and strong)".

### 5.2.2 Disadvantages of Online Teaching

Faculty members were also asked to write disadvantages of online teaching, major cons which were emerged are (a) network problem, (b) lack of face to face interaction (c) difficult to teach practical subjects. Teachers expressed disadvantages as "Network problem is the biggest issue. Second thing is that students have less

<b>Comfortable Implementation</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0 %	1 25.0 %	1 25.0 %	1 25.0 %	0 0.0%	4 100.0%
No Online Teaching Experience	1 12.5 %	1 12.5 %	3 37.5 %	1 12.5 %	2 25.5%	8 100.0%
Positive Online Teaching Experience	0 0.0%	2 2.9%	12 17.9%	33 47.1%	23 32.8%	70 100.0%
<b>Total</b>	2 2.4%	4 4.9%	16 19.5%	35 42.7%	25 30.4%	82 100.0%
<b>Consider Self Qualified</b>						
<b>Consider Self Qualified</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	0 0.0%	1 25.0%	2 50.0%	0 0,0%	1 25.0%	4 100.0%
No Online Teaching Experience	0 0.0%	1 12.5%	4 50.0%	1 12.5%	2 25.0%	8 100.0%
Positive Online Teaching Experience	0 0.0%	3 4.3%	11 15.7%	28 40.0%	28 40.0%	70 100.0%
<b>Total</b>	0 0.0%	5 6.1%	17 20.7%	25 35.4%	31 37.8%	82 100.0%
<b>Sufficient Training</b>						
<b>Sufficient Training</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0%	0 0.0%	2 50.0%	0 0.0%	1 25.0%	4 100.0%
No Online Teaching Experience	1 12.5%	3 37.5%	3 37.5%	0 0.0%	1 12.5%	8 100.0%
Positive Online Teaching Experience	1 1.4%	4 5.7%	14 20.0%	33 47.1%	18 25.7%	70 100.0%
<b>Total</b>	3 3.7%	7 8.5%	19 23.2%	33 40.2%	20 24.3%	82 100.0%
<b>Desire to Teach Some Online</b>						
<b>Desire to Teach Some Online</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	0 0.0%	0 0.0%	3 75.0%	1 25.0%	0 0.0%	4 100.0%
No Online Teaching Experience	1 12.5%	1 12.5%	3 37.5%	1 12.5%	2 25.0%	8 100.0%
Positive Online Teaching Experience	0 0.0%	8 11.4%	14 20.0%	24 34.3%	24 34.3%	70 100.0%
<b>Total</b>	1 1.2%	9 11.0%	20 24.4%	26 31.7%	26 31.7%	82 100.0%
<b>Future Plan to Teach Online</b>						
<b>Future Plan to Teach Online</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	0 0.0%	1 25.0%	3 75.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	2 25.0%	2 25.0%	2 25.0%	1 12.5%	1 12.5%	8 100.0%
Positive Online Teaching Experience	0 0.0%	6 8.6%	16 22.9%	26 37.1%	22 31.4%	70 100.0%
<b>Total</b>	2 2.4%	9 11.0%	21 25.6%	27 32.9%	23 28.0%	82.0% 100.0%

Table 4 - Comfortable Implementation and training.

<b>Advocate for Online Teaching</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	0 0.0%	1 25.0%	2 50.0%	1 25.0%	0 0.0%	4 100.0%
No Online Teaching Experience	3 37.5%	1 12.5%	1 12.5%	2 25.0%	1 12.5%	8 100.0%
Positive Online Teaching Experience	3 4.3%	9 12.9%	22 31.4%	24 34.3%	12 17.1%	70 100.0%
<b>Total</b>	6 7.3%	11 13.4%	25 30.5%	27 32.9%	13 15.9%	82 100.0%
<b>Equivalent to Traditional Teaching</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	2 50.0%	0 0.0%	2 50.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	4 50.0%	1 12.5%	2 25.0%	0 0.0%	1 12.5%	8 100.0%
Positive Online Teaching Experience	19 27.1%	17 24.3%	22 31.4%	9 12.9%	3 4.3%	70 100.0%
<b>Total</b>	25 30.5%	18 22.0%	26 31.7%	9 11.0%	4 4.9%	82 100.0%
<b>Beneficial to Most Students</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0%	2 50.0%	1 25.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	3 37.5%	3 37.5%	1 12.5%	1 12.5%	0 0.0%	8 100.0%
Positive Online Teaching Experience	5 7.1%	10 14.3%	25 35.7%	23 32.9%	7 10.0%	70 100.0%
<b>Total</b>	9 11.0%	15 18.3%	27 32.9%	24 29.3%	7 8.5%	82 100.0%
<b>Complement Adult Learning</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0%	1 25.0%	1 25.0%	1 25.0%	0 0.0%	4 100.0%
No Online Teaching Experience	2 25.0%	2 25.0%	3 37.5%	1 12.5%	0 0.0%	8 100.0%
Positive Online Teaching Experience	4 5.7%	3 4.3%	26 37.1%	30 42.9%	7 8.5%	70 100.0%
<b>Total</b>	7 8.5%	6 4.3%	30 42.9%	32 39.0%	7 8.5%	82 100.0%
<b>Most Students Prefer Online</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0%	3 75.0%	0 0.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	3 37.5%	3 37.5%	2 25.0%	0 0.0%	0 0.0%	8 100.0%
Positive Online Teaching Experience	5 7.1%	16 22.9%	26 37.1%	19 23.2%	4 5.7%	70 100.0%
<b>Total</b>	9 11.0%	22 26.8%	28 34.1%	19 23.2%	5 4.9%	82 100.0%
<b>Enhances Students Services</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0%	1 25.0%	2 50.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	4 50.0%	2 25.0%	1 12.5%	1 12.5%	0 0.0%	8 100.0%
Positive Online Teaching Experience	1 1.4%	12 17.1%	25 35.7%	25 35.7%	7 11.36%	70 100.0%
<b>Total</b>	6 7.3%	15 18.3%	28 34.1%	26 31.7%	7 8.5%	82 100.0%

Table 5 – Students' learning and outcome.

<b>Lecture</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0%	2 50.0%	2 50.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	1 12.5%	3 37.5%	1 12.5%	2 25.0%	1 12.5%	8 100.0%
Positive Online Teaching Experience	0 0.0%	8 11.4%	19 27.1%	23 32.9%	20 28.5%	70 100.0%
<b>Total</b>	2 2.4%	12 14.6%	22 26.8%	25 30.5%	21 25.6%	82 100.0%
<b>Case Studies</b>						
<b>Case Studies</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	0 0.0%	2 50.0%	2 50.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	1 12.5%	3 37.5%	2 25.0%	2 25.0%	0 0.0%	8 100.0%
Positive Online Teaching Experience	0 0.0%	8 11.4%	26 37.1%	26 37.1%	10 14.2%	70 100.0%
<b>Total</b>	1 1.2%	13 15.9%	30 36.6%	28 34.1%	10 12.1%	82 100.0%
<b>Group Discussion</b>						
<b>Group Discussion</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	0 0.0%	3 75.0%	1 25.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	3 37.5%	2 25.0%	1 12.5%	1 12.5%	1 12.5%	8 100.0%
Positive Online Teaching Experience	6 8.6%	12 17.1%	16 22.9%	23 32.9%	13 18.5%	70 100.0%
<b>Total</b>	0 0.0%	3 75.0%	1 25.0%	0 0.0%	0 0.0%	4 100.0%
<b>Group Activities</b>						
<b>Group Activities</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	1 25.0%	1 25.0%	2 50.0%	0 0.0%	0 0.0%	4 100.0%
No Online Teaching Experience	2 25.0%	2 25.0%	3 37.5%	0 0.0%	1 12.5%	8 100.0%
Positive Online Teaching Experience	8 11.4%	11 15.7%	26 37.15%	17 24.3%	8 11.4%	70 100.0%
<b>Total</b>	11 13.4%	14 17.1%	31 37.8%	17 20.7%	9 6.5%	82 100.0%
<b>Research</b>						
<b>Research</b>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
Negative Online Teaching Experience	0 0.0%	1 25.0%	1 25.0%	1 25.0%	1 25.0%	4 100.0%
No Online Teaching Experience	3 37.5%	2 25.0%	2 25.0%	0 0.0%	1 12.5%	8 100.0%
Positive Online Teaching Experience	3 4.3%	12 17.1%	16 22.9%	27 38.6%	12 17.15%	70 100.0%
<b>Total</b>	6 7.3%	15 18.3%	19 23.2%	28 34.1%	14 17.0%	82 100.0%

Table 6 - Delivery of Academic task.



interest in online classes as compared to offline. The physical interaction between a teacher and student is getting reduced which will result in a fall in discipline and honesty levels from students' sides", "Basically technical & network problems." "Lack of interaction and lack of focus of students", Interaction with students is limited, can miss on reactions of students while teaching so wouldn't be able to know whether they understand the topic or not". Further, they also talk about the health issues of online teaching, discipline, and honesty of students while attending online classes.

5.2.3 Barriers to online teaching: Word Cloud

While mentioning barriers to online teaching, faculty members strongly discussed the following points (a) lack of infrastructure; (b) dependence on technology; (c) Poor connectivity and screen timing etc.

While writing about some common barriers they wrote, "Lack of techno experience, lack of full access to advanced technology, lack of sufficient resources in the institutions for the implementation of online learning". The majority of the teachers who were having negative online teaching experience said that "technology; poor network and lack of expertise are the major hindrances in the implementation of online teaching. One teacher from the language department mentioned that, "Lack of techno experience, lack of full access to advanced technology, lack of sufficient resources in the institutions for the implementation of online learning".

5.2.4 Word Frequency Analysis (WFA)

A textual analysis of words has been performed with the help of the online portal www.wordart.com. WFA provides the number of times a word is used in the sample's unstructured data. This has been done to support manual thematic analysis. The output of WFA was also represented in the form of a cloud. Some words which are obvious in the list of advantages/disadvantages as well as to depict barriers have been

removed because these words are treated as stop words. These words are teaching, online, students, and time. Word convenient used 9 times, flexible 8 times, need 6 times better, and access 5 times, COVID, and technology 4 times. Word cloud gives a pictorial representation of the different words used and also helpful to identify prominently used words. Words which are used more frequently will be showed as bigger in size as compared to those words which were used as a smaller number of times. The most frequently used words in advantages are: convenient, flexible, COVID, need (which may represent the need of the hour). Figure 1 represents the word cloud of the advantages of online teaching as stated by teaching fraternity.

The same process was adopted to check the WFA of disadvantages and barriers to online teaching. Figure 2 represents the word cloud of the disadvantages of online teaching. This was also framed after removing stop words which were the same as in case of advantages of online teaching, most frequently used words in disadvantages were: network, health issue, lack of social/face to face interactions, etc.

In case of barriers to online teaching, Figure 3 represents the word cloud of the same. Words that were used most frequently were Internet and network (17 times), issue and connection (13 times), lack, and technology was used as 12 and 8 times respectively.

6. Discussion

In any form of teaching either face to face or online, faculty will remain the most important pillar. For the success of any practice in the teaching/learning process, the involvement of faculty is the most important aspect (M. Hung, 2015). Training of the faculty was not possible due to the sudden closure of colleges due to Covid-19 still who were having positive online teaching experiences 51(72.8%) agreed that they were having training in one or another form.



Figure 1 - Advantages of Online Teaching.



Figure 2 - Disadvantages of Online Teaching.

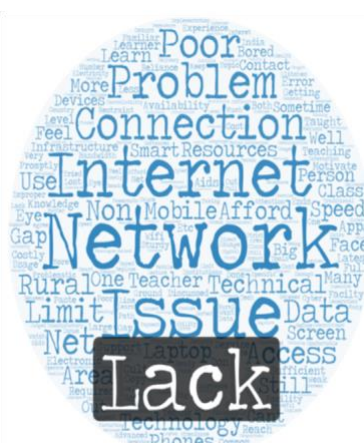


Figure 3 - Barriers to Online Teaching.

Among the faculty members who were perceived as negative and no online teaching experience, only 1(25%), 1(12.5%) respectively were having formal and informal training. This depicts the importance of training.

Learning is a continuous or never-ending process as teachers who were having negative online teaching experiences 25% of them consider themselves as self qualified. This result showed that faculties are learning with informal methods.

Type of the teaching experience (positive, negative) is a major deciding factor either faculty liked online teaching or not as those who were having negative and no online teaching experiences only 4 (33%) responded favorably, whereas 36 (51%) advocate the online teaching. At the same time either they will teach online in near future also depends upon their teaching experiences because those members who were having positive experiences 48(68.5%) came forward with the plan to teach online whereas negative or no online teaching experience squeezed this ratio (25%) only.

The majority of the teachers agreed that there is no alternative to classroom teaching, teachers who were having positive online teaching experiences, only 12 (17%) agreed that both (online as well as traditional) are equal. Faculty members also agreed that in the time of crisis like Covid-19, online teaching acts as a blessing and there is a need to develop more and more infrastructure for the implementation of online teaching.

Online teaching support delivery of academic task but the success of delivery depends upon the nature of the task, as it's easy to deliver the lecture and discuss case studies in case of online teaching whereas it is difficult to perform group activities.

## 7. Limitation of the study

The present study also suffered from certain limitations, such as size of sample, limited number of variables, scope of the study etc. There is a scope of future studies for the other developing and underdeveloped countries where means and resources are scarce. There is scope to study the other dimensions of the higher education. There is also a need to test the questionnaire psychometrically for validity and sensitivity.

## 8. Conclusion

This study was performed to examine the perceptions of faculty regarding online teaching. For many of the teachers, it's a new experience. As India is a developing country and most of the educational institutions are in transition face, it's not only the institutes rather faculty members were also in dilemma as regards to online teaching. Although many of them agreed that online and traditional modes of teaching are not equal still there is a split between teachers, this split is visible as regard to

positive online teaching experiences and negative or no online teaching experiences. Respondents who were successful in the implementation of online teaching highly advocate it and consider it more flexible, need of the hour, and highly advocate online teaching. Training and learning by doing are also important for the successful implementation of online teaching. There is a need to train the faculty as those who were trained were more comfortable while implementing online teaching.

In a country like India, there is a lack of infrastructure as most of the faculty members complaints about infrastructure, network problem, lack of resources on both ends (for teachers as well as students. Results also revealed that 100% rely on online teaching is not safe and possible due to lack of resources but it may acts as a supplement along with traditional classroom teaching.

There is need of huge investment in higher education for the success of online/blended teaching/learning process. Implementation of New Education Policy 2020 is ray of hope in this regard.

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